

CLAIMS

1. A case for a recordable medium disc, comprising a case bottom, a case lid pivotally connected to the case bottom, and a pivotal tray for the disc; the pivotal tray mounted for
5 pivotal rotation from a first position substantially parallel to the case bottom, to a second position at an angle to the case bottom; and wherein the pivotal rotation is urged by pivotal rotation of the lid relative to the case bottom.
2. The case of claim 1 wherein the case bottom comprises a
10 substantially planar bottom, and opposing short appendages providing pivot support side portions; and wherein the pivot support side portions extend outwardly beyond a rear edge of the planar bottom.
3. The case of claim 2 wherein the pivot support side portions
15 provide first pivotal support elements for the case lid; the first pivotal support elements defining a first line of rotation for the case lid; the first line of rotation lying beyond the rear edge.
4. The case of claim 2 or 3 wherein the pivot support side
20 portions provide second pivotal support elements for the pivotal tray; the second pivotal support elements defining a second line of rotation lying between the rear edge and the first line of rotation.
5. The case of claim 4 wherein the case lid comprises a
25 substantially planar cover provided with opposing downwardly depending side portions and a downwardly depending rear portion having a side surface substantially normal to the planar cover portion and a lower edge; the lower edge of the

rear portion forming a cam like portion relative to the second line of rotation.

6. The case of claim 4 or 5 wherein the side portions of the case lid are provided with case lid pivot elements for engagement with the first pivotal support elements so as to provide for pivotal rotation of the lid about the first line of rotation.

7. The case of any one of claims 3 to 6 wherein the pivotal tray comprises a substantially planar component having a rear portion provided with pivotal tray pivot elements at each outer end of the rear portion, and a front portion; the rear portion extending adjacent the rear edge of the case bottom between the pivot support side portions of the case bottom; and wherein the front portion extends to the middle of the case bottom.

8. The case of claim 7 wherein the pivotal tray pivot elements engage with the second pivotal support elements so as to provide for pivotal rotation of the pivotal tray about the second line of rotation.

9. The case of claim 7 or 8 wherein the rear portion of the pivotal tray is provided with at least one extension portion; said extension portion a continuation of the substantially planar component and projecting beyond the second line of rotation to abut the cam like portion.

10. The case of claim 9 wherein rotation of the case lid from a first closed position substantially parallel with the case bottom, to an open position at an angle to the case bottom causes the cam like portion to depress the extension portion

so as to rotate the pivotal tray from the first position parallel to the case bottom, to an angle relative to the case bottom proportional to the angle of the case lid.

11. The case of claim 9 or 10 wherein rotation of the case lid reaches a first detent angle at which the side surface substantially normal to the substantially planar cover of the case lid is in parallel contact with the extension portion so as to provide a releasable stop position retaining the case lid and the pivotal tray in a stable configuration.
12. The case of any one of claims 1 to 11 wherein the pivotal tray is provided with an approximately cylindrical protuberance from an upper surface of the pivotal tray; the cylindrical protuberance divided into a front portion and a rear portion; the front portion and rear portion arranged for releasable engagement with a central aperture of the disc.
13. The case of claim 12 wherein each of the rear portion and front portion is separately and resiliently attached to the pivotal tray.
14. The case of claim 12 or 13 wherein each of the rear portion and the front portion approximate one half of an inverted frustum so as to each present an undercut outer face; the rear portion and the front portion separated by a gap; and wherein the rear portion and the front portion projecting above the upper surface of the pivotal tray sufficient to project through the aperture of the disc.
15. The case of claim 14 wherein the diameter of the base of the frustum is slightly larger than the diameter of the central aperture of the disc.

16. The case of any one of claims 12 to 15 wherein the rear portion and the front portion are reduced in width adjacent the gap so that the width is slightly less than the diameter of the central aperture of the disc.
- 5 17. The case of any one of claims 14 to 16 wherein the rear portion and the front portion are disposed in a circular aperture within the pivotal tray; the diameter of the circular aperture larger than the diameter of the frustum; and wherein each of the rear portion and the front portion is
10 connected to the periphery of the circular aperture by a pair of flexible lugs.
18. A hub for releasably engaging a central aperture of at least one recordable medium disc; the hub comprising a projection from an upper surface of a disc tray; the projection
15 including a rear portion and a front portion separated by a transverse gap.
19. The hub of claim 18 wherein the projection is sufficient to pass through the central aperture of the at least one recordable medium disc and extend above an upper surface of
20 the, or the uppermost disc when the at least one disc is seated on the disc tray.
20. The hub of claim 18 or 19 wherein the projection approximates an inverted frustum of an oval based cone; a major axis of the oval based cone disposed at right angles to the gap; and
25 wherein the frustum provides undercut outward facing surfaces of the rear portion and front portion.

21. The hub of claim 20 wherein the major axis of the oval based cone is slightly larger than the diameter of the central aperture.
22. The hub of claim 20 or 21 wherein a minor axis of the oval
5 based cone is slightly smaller than the diameter of the central aperture.
23. The hub of any one of claims 18 to 22 wherein the rear portion and the front portion are disposed in a circular aperture within the disc tray; the diameter of the circular
10 aperture larger than the major axis of the oval based cone; and wherein each of the rear portion and the front portion is resiliently connected to the periphery of the circular aperture by a pair of flexible lugs.
24. The hub of claim 23 wherein the pair of flexible lugs of the
15 rear portion and of the front portion are disposed along a line parallel to the gap.
25. The hub of claim 23 wherein the pair of flexible lugs of the rear portions and of the front portion are and connected to the rear portion and to the front portion adjacent to the
20 gap.
26. The hub of any one of claims 20 to 25 wherein the at least one recordable medium disc may be engaged with the hub by application of a portion of an inner edge of the central aperture to the undercut outward facing surfaces of the rear
25 portion or the front portion, so as to cause deflection of the front portion or the rear portion respectively, inwards towards the gap thereby reducing the major axis to equal to or less than the diameter of the central aperture.

27. The hub of any one of claims 20 to 26 wherein the at least one disc may be disengaged from the hub by the application of vertically upward pressure on the disc, so as to force engagement between the central aperture and the undercut outwardly facing surfaces, to reduce the major axis sufficient for the central aperture of the disc to disengage from the hub.
28. The hub of any one of claims 18 to 27 wherein the disc tray is pivotally attached to a bottom portion of a disc case so as to permit rotation between a first position substantially parallel to the bottom portion and a second position at an angle to the bottom portion.
29. The hub of claim 28 wherein the disc case is provided with a pivotally connected lid.
30. The hub of claim 29 wherein pivotal rotation of the lid is arranged to apply pivotal rotation to the disc tray.
31. A case for at least one recordable medium disc, the case including:
- a case bottom;
 - incorporating a tray adapted for pivotal movement or integrally formed for pivotal movement with the case bottom and adapted to releasably retain the at least one disc adjacent thereto and having pivotal means and a rear projection, the disc tray adapted for movement relative to the case bottom between a storage position substantially parallel and adjacent to the bottom and an access position angled with respect to the bottom;

a lid having a cam like projection and adapted mounted for movement with respect to the case bottom between a closed position substantially parallel and adjacent to the bottom and an open position angled with respect to the bottom;

5 whereby, when the lid is in the closed position, the cam like extension of the lid and the disc tray are in an engaged abutting relationship and initial movement of the lid towards the open position depresses the rear projection of the disc tray and moves the disc tray to the access position
10 at which continued movement of the lid causes an area on the cam like extension of the lid to abut an area of the rear projection of the disc tray to effect a positive but releasable stop position which retains the lid in the open position and the disc tray in the elevated access position
15 and where continued movement of the lid will retain the disc tray in an elevated access position,
and when the lid is in the open position, movement of the lid through to the closed position returns the lid and the disc tray to closed positions respectively.

20 32. A hub for releasably attaching a recordable medium disc, the hub including:
a front portion;
resiliently sprung and having an undercut on its forward facing edge such that will accommodate a little more than CD
25 disc thickness,
a rear portion;

resiliently sprung and having a vertical or an undercut rearward facing edge such that will accommodate a little more than a CD disc thickness;

wherein the front and back portions are diametrically opposed at a distance a little more than the diameter of a CD disc central hole and their side to side dimension a little less than a CD disc hole diameter,

whereby, when disc is pressed vertically over the hub at least the front resiliently sprung portion will flex inward to allow the hub to pass through the hole to become securely releasably engaged by the undercut, but such that light lifting force will effect disengagement, and

whereby a disc may also be engaged with the hub by moving the disc toward the hub in a dive bombing like action to cause the inner edge of the hole to abut and press against the undercut edge of either the front or back resiliently sprung portion to cause it to flex in the direction of movement decreasing the hub diameter to allow the disc hole edge to slide down the undercut face to pass over the hub to become releasably engaged;

and wherefrom a lightly forced reverse dive bombing action will deflect the resiliently sprung portion of the hub in the direction of movement to decrease the diameter of the hub whilst flexing the contacted portion such that its edge is rotated beyond parallel to the central axis of the hub such that the edge of the disc hole may slide up to become free of the hub.

33. A hub as claimed in Claim 32 wherein the front and back portions are spaced a little apart and form a short substantially cylindrical or ovoid protrusion, wherein the front and back portions are independently connected to a base surface by means of one or more lateral beam like members projecting from their lower edge to connect to their base surface such as to function as torsion members to allow the top part of the front and back portions of the hub to be resiliently flexed back or forward.
34. The case claimed in any one of claims 31 to 33 wherein the disc tray forming part of the bottom of the case is an integrally moulded plastic component having a pair of reward located axially aligned torsion members through which downward force to a rearward appendage of the disc tray is converted to upward force to elevate the disc tray.
35. The case as claimed in any one of claims 31 to 34 wherein the tray forming part of the bottom of the case is a separate piece that that pivotally engages with the case bottom with a pair of outward protruding spigots that engage a reciprocal pair of holes or receptive recesses in the case bottom to effect co action with the lid such that the tray with releasably attached disc is elevated to an access position when the case lid is opened.
36. A case as claimed in any one of claims 31 to 35 having the hub for releasable attachment of a CD disc as in any one of claims 18 to 30.
37. A case for a recordable medium disc substantially as herein described and with reference to the accompanying drawings.

38. A hub for releasably attaching a recordable medium disc substantially as herein described with reference to the accompanying drawings.